APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,659	07/18/2003	Tetsujiro Kondo	450100-04661	3838

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EXAMINER
SHAH, UTPAL D

ART UNIT	PAPER NUMBER
2624	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/622,659	KONDO ET AL.
	Examiner	Art Unit	
	Utpal D. Shah	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____ .

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-12* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-12* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *18 July 2003* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All b) ☐ Some * c) ☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____ .

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.
>
> When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).
>
> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims 6 and 12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 6 and 12 define a 'program' embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium

and will be statutory in most cases since use of technology permits the function of the

descriptive material to be realized" – Guidelines Annex IV). That is, the scope of the

presently claimed 'program' can range from paper on which the program is written, to a

program simply contemplated and memorized by a person. The examiner suggests

amending the claim to embody the program on "computer-readable medium" or

equivalent in order to make the claim statutory. Any amendment to the claim should be

commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by article

titled "A method of removing blocking artifacts effects in MPEG-2 video by applying a

block classification technique using stream information" by Kondo.

3.   In regards to claim 1, Kondo discloses an image signal processing apparatus for

processing a first image signal including multiple items of pixel data, said first image

signal being generated by decoding a motion-compensated predictive encoded-digital

image signal, to allow the first image signal to be converted to a second image signal

including multiple items of pixel data, said apparatus comprising: (fig. 1, Kondo

discloses that a MPEG-2 signal is input and converted to a noise reduced signal)

class detection means for detecting a class to which pixel data of a target

position in said second image signal belongs, based on at least motion-compensated

predictive information which has been used at the time of obtaining the pixel data of

said first image signal corresponding to the target position in said second image signal;

and (sec. 2.3, Kondo discloses classify blocks according to position and motion

vectors.)

pixel data generation means for generating pixel data of the target position in

said second image signal in correspondence with said class detected in said class

detection means. (sec. 2.4, Kondo discloses using the classification information to

determine where the noise is occurring in the image.)

4.   In regards to claim 2, Kondo discloses wherein said pixel data generation means

comprises:

coefficient data generation means for generating coefficient data used in an

estimation equation, said coefficient data corresponding to the class detected in said

class detection means; (sec. 2.4, Kondo discloses DCT coefficients are used in

classification.)

data selection means for selecting multiple items of pixel data located in the

vicinity of the target position in said second image signal, based on said first image

signal; and (sec. 2.3, Kondo discloses selecting items in the vicinity of the target.)

calculation means for calculating and obtaining the pixel data of the target

position in said second image signal based on said estimation equation, by use of the

coefficient data generated in said coefficient data generation means and the multiple

items of pixel data selected by said data selection means. (sec. 2.4, Kondo discloses

estimation position of the noise using coefficients and motion vectors.)

5.   In regards to claim 3, Kondo discloses wherein said motion-compensated

predictive information includes motion compensation vector information with an

accuracy of 1/2 pixel, and said class detection means detects a class differing

depending on whether or not said motion compensation vector has a 1/2 pixel

component. (fig. 2, Kondo discloses that classification is done within ½ pixel accuracy.

The examiner would like to assert that ½ pixel accuracy of the motion vectors is

standard in MPEG-2 compression.)

6.   Claims 4-7 are similarly analyzed as claim 1.

7.   In regards to claim 8, Kondo discloses an apparatus for generating coefficient

data of an estimation equation to be used at the time of converting a first image signal

including multiple items of pixel data, said first image signal being generated by

decoding a motion-compensated predictive encoded-digital image signal, to a second

image signal including multiple items of pixel data, said apparatus comprising: (fig. 1,

Kondo discloses that a MPEG-2 signal is input and converted to a noise reduced signal)

decoding means for decoding digital image signal obtained as a result of encoding a teacher signal corresponding to said second image signal and obtaining a student signal corresponding to said first image signal; (fig. 1, Kondo discloses decoding of a MPEG-2 signal.)

class detection means for detecting a class to which pixel data of a target position in said teacher signal belongs, based on at least the motion-compensated predictive information which has been used at the time of obtaining the pixel data of said student signal corresponding to the target position in said teacher signal; (sec. 2.3, Kondo discloses classify blocks according to position and motion vectors.)

data selection means for selecting multiple items of pixel data located in the vicinity of the target position in said teacher signal, based on the student signal output from said decoding means; and (sec. 2.3, Kondo discloses selecting items in the vicinity of the target.)

calculation means for performing a calculation using the class detected in said class detection means, the multiple items of pixel data selected by said data selection means, and the pixel data of the target position in said teacher signal, and obtaining the coefficient data for each class. (sec. 2.4, Kondo discloses DCT coefficients are used in classification.)

8.   Claim 9 is similarly analyzed as claim 3.

9.   Claims 10-12 are similarly analyzed as claim 8.

Conclusion

Examiner note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teaching for the art and are applied to the specific limitations within the individual claim, other passages and figures may applied as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirely as potential teaching all or part of the claimed invention, as well as the context of the a passage as taught by the prior art or disclosed by the examiner.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Utpal D. Shah whose telephone number is 571-272-8568. The examiner can normally be reached on M-F (9 AM - 5:30 PM).
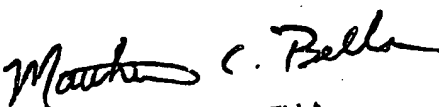
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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USPTO Customer Service Representative or access to the automated information
system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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